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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,806	11/21/2003	Leonid Razoumov	010052D1	3290

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EXAMINER	
MALEK, LEILA	
ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
11/05/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/719,806	RAZOUMOV ET AL.	
	Examiner	Art Unit	
	LEILA MALEK	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-13 and 15-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-13 and 15-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 07/15/2009 have been fully considered but they are not persuasive.

Applicant's Argument: Applicant argues that one of skill in the art would not combine Rhodes with the other art of record. Rhodes does not mention anything about energy values or using energy values to improve the performance of decoders.

Examiner's Response: Examiner asserts that Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated, it generates an index for the stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values, however, Rhoads's reference contains a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi and Saints as suggested by Rhoads to achieve a higher level of security in the system.

Applicant's Argument: Applicant further argues that Rhodes discloses that the telephone randomly generates a number between 1 and 256, which serves as an index

to these stored messages. Claim 1 recites "selecting an index value associated with the energy value." Hence, as disclosed by Rhodes, a random generation of the index value would not work if combined with the other references of record to produce the claimed invention.

Examiner's Response: Since Applicant in the body of claim does not disclose how the indexes have been selected, generating an index for the stored messages has been interpreted as selecting an index associated with a message.

Claim Objections

2. Claim 9 is objected to because of the following informalities: as to claim 9, limitation "computer-readable media including" in the preamble of the claims needs to be replaced by "computer-readable medium encoded with". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 6, 8-10, and 15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al. (hereafter, referred as Choi) (US 6,757,537), and Saints et al. (hereafter, referred as Saints) (US 5,872,775), Rhoads (US 6,278,781), and LaRosa et al. (hereafter, referred as LaRosa) (US 6,628,965), further in view of Wortham (US 6,748,226).

As to claims 1, 8, and 9, Choi discloses a power control device and method in a mobile communication system (see the abstract and column 1, second paragraph). Choi discloses determining an energy value (i.e. power control parameter has been interpreted as energy value) (see the abstract, column 2, lines 41-52) for a transmission from a first station (i.e., a base station) to a second station (i.e., a remote terminal) by locating the energy value in a look-up table (see column 2, lines 46-47, wherein memory has been interpreted as look-up table); forming a message carrying the energy value (see Fig. 12, block 1214); and transmitting the message to the second station. Choi discloses all the subject matters claimed in claims 1, 8, and 9, except that the energy value is a traffic-to-pilot ratio and there is a decoder residing in the second station. Choi also does not disclose selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Choi does not disclose that the message carries an identity of a target destination of the payload data, a transmission rate of a sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of arrival of the sub-packets. As to the first limitation, Saints discloses (see column 7, lines 39-52) a communication system, wherein upon establishment of a link between a mobile unit N and a cell-site N' (i.e. the transmitter), cell site N' transmits an initial ratio of full-rate frame power to pilot power (i.e. the traffic (see column 7, line 50) energy to a pilot energy ratio) to the mobile unit, and this initial ratio is stored in memory 44 as the reference ratio. Saints further discloses that for each frame of received data signal, also called traffic signal, rate processor 46 computes a frame ratio of the power of the data signal to the power

of the pilot signal. Moreover, Saints discloses that rate determined by the rate determination unit is then used to properly decode the frame of data (see the abstract). Traffic-to-pilot ratio value has been widely used in the art in power control systems to accurately determine the transmission power. Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art to modify Choi as suggested by Saints to use a traffic-to-pilot ratio. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a decoder at the remote station (the receiver) to extract the original transmitted data from the coded information received from the base station. As to the second limitation, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated, it generates an index for the stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values, however, Rhoads's reference contains a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi and Saints as suggested by Rhoads to achieve a higher level of security in the system. Choi, Saints, and Rhoads, disclose all the subject matters claimed in claims 1, 8, and 9, except that the

message also carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as oppose to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi, Saints, and Rhoads as suggested by LaRosa to improve error correction and detection at the receiver. Choi, Saints, Rhoads, and LaRosa disclose all the subject matters claimed in claims 1, 8, and 9, except that the message also contains a timing of the arrival of the sub-packets. Wortham, in the same field of endeavor, discloses a communication system comprising a plurality of transmitter sites having known position coordinates, each transmitter site broadcasting time-of-arrival (TOA) data to a mobile station, wherein the mobile unit receives the TOA data (for the data transmitted in the form of packets the TOA would be the TOA for the packets or sub-packets) transmitted by at least three transmitter sites. A memory on the mobile unit stores known position

coordinates of the transmitter sites. A processor receives the TOA data from the mobile communications device and determines the position of the mobile unit in response to the TOA data received from the transmitter sites and the known position coordinates of the transmitter sites stored in the memory (see column 1, last paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to send a message to the mobile station including the TOA data to facilitate the determination of the location of the mobile unit. Furthermore, the TOA information can be used to determine the transmission timing errors.

As to claim 10, Choi discloses a power control device and method in a mobile communication system (see the abstract and column 1, second paragraph). Choi discloses a transmission power control unit for determining an energy value (see the abstract, column 2, lines 41-52) for a transmission from a first station (interpreted as a base station) to a second station (interpreted as a remote terminal) by locating the energy value in a look-up table (see column 2, lines 46-47, wherein memory has been interpreted as look-up table); a channel element coupled to the transmission power control unit for forming a message carrying the energy value (see Fig. 12, block 1214); and for transmitting the message to the second station. Choi discloses all the subject matters claimed in claim 10, except that the energy value is a traffic-to-pilot ratio and there is a decoder residing in the second station. Choi also does not disclose selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Choi does not disclose that the message carries an identity of the target destination of a data payload, a transmission rate of the sub-packet, a

number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. As to the first limitation, Saints discloses (see column 7, lines 39-52) a communication system, wherein upon establishment of a link between a mobile unit N and a cell-site N' (i.e. the transmitter), cell site N' transmits an initial ratio of full-rate frame power to pilot power (i.e. the traffic (see column 7, line 50) energy to a pilot energy ratio) to the mobile unit, and this initial ratio is stored in memory 44 as the reference ratio. Saints further discloses that for each frame of received data signal, also called traffic signal, rate processor 46 computes a frame ratio of the power of the data signal to the power of the pilot signal. Moreover, Saints discloses that rate determined by the rate determination unit is then used to properly decode the frame of data (see the abstract). Traffic-to-pilot ratio value has been widely used in the art in power control systems to accurately determine the transmission power. Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art to modify Choi as suggested by Saints to use a traffic-to-pilot ratio. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a decoder at the remote station (the receiver) to extract the original transmitted data from the coded information received from the base station. As to the second limitation, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated it generates an index for these stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the

same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values however, Rhoads shows a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi and Saints as suggested by Rhoads to achieve a higher level of security in the system. Choi, Saints, and Rhoads, disclose all the subject matters claimed in claim 10, except that the message also carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as oppose to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirements of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi, Saints, and Rhoads as suggested by LaRosa to improve error correction and detection at the receiver. Choi,

Saints, Rhoads, and LaRosa disclose all the subject matters claimed in claim 10, except that the message also contains a timing of the arrival of the sub-packets. Wortham, in the same field of endeavor, discloses a communication system comprising a plurality of transmitter sites having known position coordinates, each transmitter site broadcasting time-of-arrival (TOA) data to a mobile station,wherein the mobile unit receives the TOA data (for the data transmitted in the form of packets the TOA would be the TOA for the packets or sub-packets) transmitted by at least three transmitter sites. A memory on the mobile unit stores known position coordinates of the transmitter sites. A processor receives the TOA data from the mobile communications device and determines the position of the mobile unit in response to the TOA data received from the transmitter sites and the known position coordinates of the transmitter sites stored in the memory (see column 1, last paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to send a message to the mobile station including the TOA data to facilitate the determination of the location of the mobile unit. Furthermore, the TOA information can be used to determine the transmission timing errors.

As to claims 6 and 15, Choi discloses that the first station is a base station and the second station is a remote station (see the abstract and column 2, lines 42-52).

4. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi, Saints, Rhoads, LaRosa, and Wortham, further in view of Balachandran (US 6,608,828).

As to claims 2 and 11, Choi, Saints, Rhoads, LaRosa, and Wortham, disclose all the subject matters claimed in claims 1 and 10, except for positioning the message in a

preamble. Balachandran, in the same field of endeavor, discloses a header (see Fig. 8) (interpreted as preamble) (interpreted as a message) that is repeatedly transmitted and received, along with data, on a radio channel, wherein the header is decoded to identify values for the header fields (see the abstract). Balachandran further discloses that the header comprises a power reduction field (see column 4, lines 25-30) to increase the reliability of the decoding process (see column 4, lines 25-33). It would have been obvious to one of ordinary skill in the art at the time of invention to position the power control information in the preamble in order to inform the power control information to the second station right after the start of data reception and adjust signal power as soon as possible.

5. Claims 3, 4, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi, Saints, Rhoads, LaRosa, and Wortham, further in view of Guo et al. (hereafter, referred as Guo) (US 6,389,034).

As to claims 3 and 12, Choi, Saints, Rhoads, LaRosa, and Wortham, disclose all the subject matters claimed in claims 1 and 10, except that the step of transmitting the message (power control information) comprises positioning the message in a sub-packet. Guo, in the same field of endeavor, discloses an apparatus comprising a base station and plurality of remote terminals. Guo discloses a frame structure, which includes sub-channel information (including power control information) being transmitted from the base station to the remote terminals or vice versa (see column 14, last paragraph). Guo further discloses that transmitting the power control information comprises positioning the information in a sub-packet (see column 14, lines 27-41). It

would have been obvious to one of ordinary skill in the art at the time of invention to place the power control information (i.e. value of the signal energy) in the sub-packet to make the extraction of the information fast and easy (i.e. without detecting and processing the header) and as the result make very quick power control adjustments as suggested by Guo (see column 14, lines 29-33).

As to claim 4 and 13, Choi, Saints, Rhoads, LaRosa, and Wortham, disclose all the subject matters claimed in claims 1 and 10, except that the step of transmitting the message (power control information) comprises positioning the message between a preamble and a sub-packet. Guo shows that the step of transmitting the message comprises positioning the message between a preamble and a sub-packet (see Fig. 4B). It would have been obvious to one of ordinary skill in the art at the time of invention to position the power control information (i.e. value of the signal energy) between the preamble and the sub-packet to make the extraction of the power control information fast and easy (i.e. without processing the preamble) and as the result make very quick power control adjustments as suggested by Guo (see column 14, lines 29-41).

6. Claims 7 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi, Saints, Rhoads, LaRosa, and Wortham, further in view of Moon et al. (hereafter, referred as Moon) (US 6,643,272).

As to claims 7 and 16, Choi, Saints, Rhoads, LaRosa, and Wortham, disclose all the subject matters claimed in claims 1 and 10, except that the first station is a remote station and the second station is a base station. Moon, in the same field of endeavor,

discloses a mobile communication system, which controls transmission power of radio links between a base station and a mobile (remote) station (see the abstract). Moon further discloses that the base station transmits a power control bit to the mobile station to make a power arbitration for transition and at the same time, mobile station transmits a power control bit to the base station, with an appropriate initial power (see column 10, lines 43-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to send power control signals from a remote station to a base station to increase the power efficiency of the communication system.

As to claim 17, Choi discloses a power control device and method in a mobile communication system (see the abstract and column 1, second paragraph). Choi discloses a transmission power control unit for determining an energy value (see the abstract, column 2, lines 41-52) for a transmission from a first station (i.e., a base station) to a second station (i.e., a remote terminal) by locating the energy value in a look-up table (see column 2, lines 46-47, wherein memory has been interpreted as look-up table); a channel element coupled to the transmission power control unit for forming a message carrying the energy value (see Fig. 12, block 1214); and for transmitting the message to the second station. Choi discloses all the subject matters claimed in claim 17, except that the energy value is a traffic-to-pilot ratio and there is a decoder residing in the second station. Choi also does not disclose selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Choi does not disclose that the message carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry

the full amount of the data payload, and a timing of the arrival of the sub-packets. As to the first limitation, Saints discloses (see column 7, lines 39-52) a communication system, wherein upon establishment of a link between a mobile unit N and a cell-site N' (i.e. the transmitter), cell site N' transmits an initial ratio of full-rate frame power to pilot power (i.e. the traffic (see column 7, line 50) energy to a pilot energy ratio) to the mobile unit, and this initial ratio is stored in memory 44 as the reference ratio. Saints further discloses that for each frame of received data signal, also called traffic signal, rate processor 46 computes a frame ratio of the power of the data signal to the power of the pilot signal. Moreover, Saints discloses that rate determined by the rate determination unit is then used to properly decode the frame of data (see the abstract). Traffic-to-pilot ratio value has been widely used in the art in power control systems to accurately determine the transmission power. Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art to modify Choi as suggested by Saints to use a traffic-to-pilot ratio. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a decoder at the remote station (the receiver) to extract the original transmitted data from the coded information received from the base station. Neither Choi nor Saints expressly discloses that transmitter is adapted to transmit the message in a forward link channel to the remote station. Moon, in the same field of endeavor, discloses a mobile communication system (see the abstract), wherein a transmitter is adapted to transmit power control messages in a forward link channel to the remote station (see column 4, last paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi

and Saints as suggested by Moon to transmit power control messages via the forward link channel in order to avoid using extra channels just for sending power control messages and save the bandwidth. As to the second limitation missing from Choi, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated it generates an index for these stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values however, Rhoads shows a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi, Saints, and Moon as suggested by Rhoads to achieve a higher level of security in the system. Choi, Saints, Rhoads, and Moon, disclose all the subject matters claimed in claim 17, except that the message also carries an identity of a target destination of a payload data, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the

transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as oppose to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi, Saints, Rhoads, and Moon as suggested by LaRosa to improve error correction and detection at the receiver. Choi, Saints, Rhoads, LaRosa, and Moon disclose all the subject matters claimed in claim 17, except that the message also contains a timing of the arrival of the sub-packets. Wortham, in the same field of endeavor, discloses a communication system comprising a plurality of transmitter sites having known position coordinates, each transmitter site broadcasting time-of-arrival (TOA) data to a mobile station, wherein the mobile unit receives the TOA data (for the data transmitted in the form of packets the TOA would be the TOA for the packets or sub-packets) transmitted by at least three transmitter sites. A memory on the mobile unit stores known position coordinates of the transmitter sites. A processor receives the TOA data from the mobile communications device and determines the position of the mobile unit in response to the TOA data received from the transmitter sites and the known position coordinates of the transmitter sites stored in the memory (see column 1, last paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to send a message to the mobile station including the TOA data to facilitate the determination of

the location of the mobile unit. Furthermore, the TOA information can be used to determine the transmission timing errors.

As to claim 18, Choi discloses a power control device and method in a mobile communication system (see the abstract and column 1, second paragraph). Choi discloses a transmission power control unit for determining an energy value (see the abstract, column 2, lines 41-52) for a transmission from a first station to a second station by locating the energy value in a look-up table (see column 2, lines 46-47, wherein memory has been interpreted as look-up table); a channel element coupled to the transmission power control unit for forming a message carrying the energy value (see Fig. 12, block 1214); and for transmitting the message to the second station. Choi discloses all the subject matters claimed in claim 18, except that the energy value is a traffic-to-pilot ratio and there is a decoder residing in the base station. Choi also does not disclose selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Choi does not disclose that the message carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. As to the first limitation, Saints discloses (see column 7, lines 39-52) a communication system, wherein upon establishment of a link between a mobile unit N and a cell-site N' (i.e. the transmitter), cell site N' transmits an initial ratio of full-rate frame power to pilot power (i.e. the traffic (see column 7, line 50) energy to a pilot energy ratio) to the mobile unit, and this initial ratio is stored in memory 44 as the reference ratio. Saints further discloses that for each

frame of received data signal, also called traffic signal, rate processor 46 computes a frame ratio of the power of the data signal to the power of the pilot signal. Moreover, Saints discloses that rate determined by the rate determination unit is then used to properly decode the frame of data (see the abstract). Traffic-to-pilot ratio value has been widely used in the art in power control systems to accurately determine the transmission power. Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art to modify Choi as suggested by Saints to use a traffic-to-pilot ratio. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a decoder at the remote station (the receiver) to extract the original transmitted data from the coded information received from the base station. Choi and Saints disclose all the subject matters claimed in claim 18, except that the first station is a remote station and the second station is a base station. Also neither Choi, nor Saints, disclose that a transmitter is adapted to transmit the message in a reverse link channel to the base station. Moon, in the same field of endeavor, discloses a mobile communication system, which controls transmission power of radio links between a base station and a mobile (remote) station (see the abstract). Moon further discloses that the base station transmits a power control bit to the mobile station to make a power arbitration for transition and at the same time, mobile station transmits a power control bit to the base station, with an appropriate initial power (see column 10, lines 43-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to send power control signals from a remote station to a base station to increase the power efficiency of the communication system. Moon also discloses a

transmitter adapted to transmit the message in a reverse link channel to the base station (see column 5, first paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi and Saints as suggested by Moon to transmit the message in a reverse link channel to the base station in order to avoid using extra channels just for sending power control messages and save the bandwidth. Choi, Saints and Moon do not disclose selecting an index value associated with the energy value, and forming a message carrying the index value. Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated it generates an index for these stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values however, Rhoads shows a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi, Saints, and Moon, as suggested by Rhoads to achieve a higher level of security in the system. Choi, Saints, Moon, and Rhoads, disclose all the subject matters claimed in claim 18, except that the message also carries an identity of a target destination of the data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload,

and timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as oppose to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Choi, Saints, Moon, and Rhoads as suggested by LaRosa to improve error correction and detection at the receiver. Choi, Saints, Rhoads, Moon, and LaRosa disclose all the subject matters claimed in claim 18, except that the message also contains a timing of the arrival of the sub-packets. Wortham, in the same field of endeavor, discloses a communication system comprising a plurality of transmitter sites having known position coordinates, each transmitter site broadcasting time-of-arrival (TOA) data to a mobile station, wherein the mobile unit receives the TOA data (for the data transmitted in the form of packets the TOA would be the TOA for the packets or sub-packets) transmitted by at least three transmitter sites. A memory on the mobile unit stores known position coordinates of the transmitter sites. A processor receives the TOA data from the mobile communications device and determines the position of the mobile unit in response to

the TOA data received from the transmitter sites and the known position coordinates of the transmitter sites stored in the memory (see column 1, last paragraph). It would have been obvious to one of ordinary skill in the art at the time of invention to send a message to the mobile station including the TOA data to facilitate the determination of the location of the mobile unit. Furthermore, the TOA information can be used to determine the transmission timing errors.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leila Malek whose telephone number is 571-272-8731. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
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